



# NARRATIVE REVIEW ON EFFECTIVENESS OF INDIVIDUALIZED EDUCATION TO IMPROVE KNOWLEDGE ELDERLY PEOPLE REGARDING DIABETES MELLITUS AND ITS PREVENTION

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## ABSTRACT

### Introduction:

The prevention of diabetes mellitus is a challenge for the healthcare team. Prevention of diabetes is crucial to lowering disease incidence, and thus minimizing the individual, familial, and public health burden. It is highly important to know about the awareness of the disease.

### Objective:

- To evaluate the effectiveness of individualized education on knowledge regarding diabetes mellitus and its prevention among elderly people.
- To assess the knowledge regarding diabetes mellitus and its prevention among elderly people.

### Method:

Seven hundred and three village inhabitants, comprising of adults and youth 10-92 years of age were provided educational intervention using 'trained trainers'. Culturally and linguistically appropriate health education message addressed diet, physical activity and knowledge improvement. The prevalence of diabetes mellitus and the effectiveness of intervention were assessed using select parameters.

### Result:

The crude prevalence of diabetes and pre-diabetes among was 5% and 13% respectively, while pre-diabetes in youth 10-17 years of age was 5%. Intervention reduced fasting blood glucose levels of pre-diabetes adults by 11% pre-diabetes youth by 17% and among adults with type 2 diabetes mellitus by 25%. Improvements in obesity parameters and dietary intake also occurred. A step-wise worsening of parameters progressing from the normoglycemic state to the impaired levels of pre-diabetes and diabetes mellitus was observed.

### Conclusion:

Educational intervention was successful in reducing some of the obesity parameters and improving dietary patterns of individuals with pre-diabetes and diabetes mellitus.

**KEYS WORDS:** Effectiveness, Individualized education, Prevention, Diabetes Mellitus and Elderly people.

## BACKGROUND:

The rights of being healthy are common to all human beings irrespective of sex, age, residency, socio-economic status, caste or religion. The dynamic nature of health does not influence any of these factors of a person but these factors influence health. The demography describes various age group and concerns of high risk groups like infants, under-five children, antenatal and postnatal mothers as well as the elderly or old aged towards health and illness. (Ageing and health Fact sheet, September 2015, WHO)

In India during 2011 there were 98 million senior citizens and the number is expected to swell to 143 million by 2021. As per 2011 census and counting among these, there are nearly 104 million elderly persons aged 60 years or above out of which 53 million females and 51 million males. 71% of elderly population resides in rural areas while 29% is in urban. The above facts have clearly indicated that the 21<sup>st</sup> century is widely being considered the century of the elderly persons. (Report of the Technical Group on Population Projection, Govt. of India, 2006)

At the same time elderly people are considered as the most vulnerable population along with antenatal mother and under five children. Some of the common health problem which are more prevalent among the elderly people are heart disease, hypertension, stroke, cancer, diabetes, asthma, pneumonia, depression and physical injury etc. And among these diabetes mellitus is one of the most prevalent disease condition among the elderly people.

## NEED FOR THE STUDY:

Diabetes mellitus is a group metabolic diseases characterized by increased levels of glucose in the blood, resulting from defects in insulin secretion. There are about 3.5 crore patients diabetes in India and the figure will rise to about 5.2 crores by 2050. Every 5<sup>th</sup> patient visiting a consulting physician is a diabetic, and, every 7<sup>th</sup> patient visiting a family physician is a diabetic. Keeping in view the alarming increase in the incidence and prevalence of diabetes in India, WHO has declared India as the 'Diabetes Capital of the World'. More than half of diabetes are above 60 years. (Vijay Gupta M.D 2002)

Diabetes mellitus prevalence, in general, is growing worldwide, and is becoming

an epidemic and endemic problems with the social and economic burden. However, its prevalence and its co-morbidities and mortality are higher in elderly than in young people. Chronic hyperglycemia leads to damage and failure of various organs, especially the heart, bloods vessels, eyes, kidneys, and nerves. In general, 20% of old people have diabetes mellitus, and a similar proportion have diagnosed diabetes mellitus.

Most people above 60 years old suffer from type 2 diabetes mellitus due to insulin resistance. From the health perspective, there is increasing to developed diabetes prevention programmes. Therefore a teaching programmes could important intervention which can people to know sign and symptoms of diabetes at the earliest.

## Aim of the Study:

- The aim of this narrative review is to find evidence of effectiveness of individualized education on knowledge regarding diabetes mellitus and its prevention among elderly people.

## OBJECTIVE THE OF STUDY:

- To evaluate the effectiveness of individualized education on knowledge regarding diabetes mellitus and its prevention among elderly people.

## METHODOLOGY:

**Search Strategy Method:** An electronic search of articles published in various journals has been done. Search was restricted to only for English language.

- Pubmed
- From the year 2008 to 2017
- A search strategy was limited to only English language.

**Type of Intervention:** Individualized education.

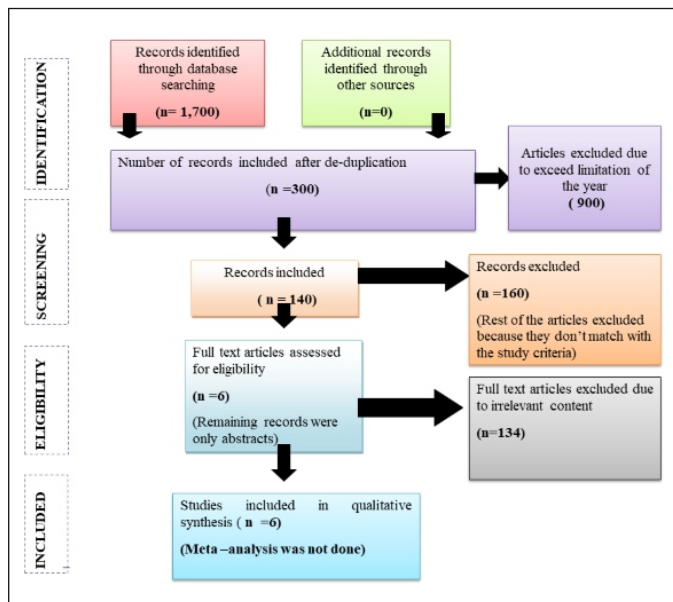
**Type of Studies:** Non-experimental and experimental study.

**Type of Participants:** Elderly people

**Setting:** Old age homes.

### RESULT:

The systematic search was conducted by framing the terms independently and in combination with all synonyms, also according to the database. Likewise, a manual Google scholar search was undertaken using the keywords and search synonyms from already articles. An addition of 6 articles was found in the database. Initial search retrieved 1200 articles over which 300 articles were selected manually. 150 articles were excluded as a result of duplication in the database. Duplication was removed and reviewed 140 articles for eligibility. 134 more studies were excluded because of inaccessibility of full text. Hence 6 articles were screened which includes quantitative study.



**Outcome:** This narrative review outcome has shown the effectiveness of individualized education regarding diabetes mellitus among elderly people.

Kaniz Fatima et.al (2017) conducted knowledge, attitude and practice regarding diabetes mellitus among non-diabetic and diabetic study participants at Bangladesh. 18,697 adults were selected by purposive sampling technique through pre-structured questionnaire and interviewed method. The overall level of knowledge, practice is average and attitude is good in both non-diabetes and type 2 diabetes mellitus.

Mistere Wolde et.al (2017) conducted knowledge and practice on prevention of diabetes mellitus among diabetes family members at Ethiopia. 400 people were choose by simple random by using interview and questionnaire .Diabetes mellitus occurrence and prevention is low but awareness campaigns should be pursued regardless of family history and educational background to prevent further increase of diabetes mellitus.

Beteena Kurion et.al (2016) conducted a community based study on knowledge of diabetes mellitus among adults in rural population at Kerala. 343 adults were selected by using random sampling technique through questionnaire and interview method. Knowledge concerning diabetes mellitus is medium but in deepness awareness is deficient. So community people needed to educate to further prevention of diabetes mellitus.

Dalma Alvespereira et.al (2012) conducted the effect of educational intervention on knowledge of diabetes mellitus patients at Brazil. Out 62 patients 28 are in intervention group and 34 in control group by using questionnaire method. This study result possible and suitable schedule for the improvement of educational activities, which will help to encourage anatomy of the patients for active involvement in construction of new knowledge.

William Kibereng Maine et.al (2010) conducted knowledge attitude and practice related to diabetes among community members in four provinces at Kenya. 2000 people drawn from 8 districts in 4 provinces both rural and urban one each, were selected random sample technique. Result indicate that knowledge about diabetes is lacking. So diabetes education will improved knowledge, attitude and skill will lead to better control of disease.

N. Kamalamma PHD et.al (2008) conducted a community based diabetes prevention and management education program in a rural at India. 703 adults and youth were choose by simple random sampling technique by utilize post-intervention survey questionnaire method. Result terminate educational involvement was victorious in decrease heaviness limit and to get better dietary pattern

of single members together pre-diabetes and diabetes mellitus.

### SUMMARY OF FINDINGS:

- The available literature refines to get 6 quantitative studies.
- In this narrative review, 1 study state that those attaining higher educational have good level of knowledge and people who residing in Kombalcha are having good level of practice compared to Kemisse.
- 1 study state that KAP towards disease was found to be better among people who were living with diabetes compared to people without diabetes.
- 1 study state that participants in the experimental group have more knowledge than control group.
- 1 study state that educational intervention was successful in reducing some of the obesity parameters and improving dietary patterns.
- 1 Study state that there were no significant difference in knowledge level between gender.
- 1 Study state that there were no significant in knowledge between gender, occupation and socio-demographic status.

### Importance in Education :

Diabetes mellitus is a multiple factorial disease that requires long-term care, since it involves major changes in both physical and psychosocial. So, diabetes education is a critical element of care that will be prevent the occurrence of diabetes in future. All the nursing students and staff nurses must have good depth knowledge about diabetes mellitus and good skill in all nursing care.

### FUTURE SIGNIFICANCE:

- It helps to delays for further occurrence of diabetes mellitus complications in future.
- It helps the people to prevent themselves and take precaution about diabetes mellitus.

### LIMITATIONS:

- Database search was limited.
- Reviews was limited about people above 34 years.

### Strength and Weakness:

#### Strength:

- Article search was carried out on significant criteria.
- This review could find the effectiveness of individualized education on knowledge regarding diabetes mellitus its prevention among elderly people.

#### Weakness:

- Articles mainly focus on only the effectiveness of individualized education on knowledge regarding diabetes mellitus its prevention among elderly people.
- Only 6 quantitative studies were included for data synthesis due to limitations.

### CONCLUSION:

There is a significant about people know regarding the knowledge and prevention of diabetes mellitus. Good knowledge of diabetes amongst care givers is directly related to the quality of care given. Education of elderly people about the diabetes mellitus its prevention and lifestyle modification. And this help in delay further occurrences of diabetes mellitus complications in future.

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- N. Kamalamma PHD et.al

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